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The purpose of this study was to determine the total number and distribution of the physically handicapped in Nebraska in order to provide them with adequate library service. The report defines the physically handicapped as "residents of the United States certified by competent authority as unable to read normal printed materials as a result of physical limitations." Three sources were used to establish the number of physically handicapped: (1) all physicians who would come in contact with the physically handicapped, (2) all nursing homes and state institutions in Nebraska, and (3) all county offices of public welfare in the state. The report describes the present and projected distribution of the 683 physically handicapped persons, their age, sex, and whether or not they are institutionalized. (CC)

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A Survey of

THE PHYSICALLY HANDICAPPED OF NEBRASKA

— The Parameters of Expanded Library Service —

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A SURVEY OF THE PHYSICALLY HANDICAPPED OF NEBRASKA

-The Parameters of Expanded Library Services-

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OFFICE OF EDUCATION

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Nebraska Public Library Commission
Lincoln, Nebraska

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A SURVEY OF THE PHYSICALLY HANDICAPPED OF NEBRASKA

-The Parameters of Expanded Library Services-

TABLE OF CONTENTS

Part I Introduction

Part II Design and Methodology

Part III Descriptive Parameters and Distribution

Part IV Projective Parameters and Distribution

Part V Conclusion

For thirty-four years the Library of Congress has supplied talking book services to the blind. The available talking book services include 3,500 different titles, with about five hundred new titles being added annually. The talking books are general in scope, ranging from books of current and popular interest to classics, practical, and vocational material.

In July of 1966 the United States Congress passed two laws broadening the base of potential users of these services. One law (Public Law 89-522) amended previously existing statutes so that these services were extended not only to the blind but also to "physically handicapped residents of the United States certified by competent authority as unable to read normal printed material as a result of physical limitations" (this specific definition of "physically handicapped" will be used throughout this project). Examples of conditions which might lead to this type of physical handicap might be: cerebral palsy, multiple sclerosis, muscular dystrophy, arthritis, infantile paralysis, deplegia, polio, or birth defects. The other new law (Public Law 89-511; Title IV; Part B) appropriated federal funds to assist the states in extending library services to the physically handicapped.

Any new service necessitates adequate information to determine the number of potential users of the service, pertinent data regarding their distribution, age, sex and other significant factors to ensure that the user will be well served.

It is, therefore, the goal of this study to sufficently define the situation within Nebraska, both in total number and significant distri-

bution to ensure sufficent and efficent library services.

II

(1) There is no data describing the number of individuals within Nebraska suffering from physical disabilities of any kind.

(2) The purposes of this study force an emphasis on a certain kind and degree of physical limitation.

(3) The purposes of this study necessitate knowledge of distribution, age, sex, and other factors.

Because of the three facts stated above, it became obvious that original research would be a necessity to obtain the type of data necessary for the most efficient administration of the newly provided services.

The intentions of the project were to tap the sources of information that would be most likely to have knowledge of individuals with physical limitations (those meeting the specific definitions of Congress). After considering a number of possible sources, three were selected as the most likely to give comprehensive and complete information. They were: (1) All physicians in Nebraska who would come into contact with the physically handicapped.* (2) All nursing homes and closed institutions (e.g. State Hospitals) in Nebraska. (3) All county offices of public welfare in the state.

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* This category includes the following types of practice: cardiovascular disease, general practice, general surgery, neurological surgery, neurology, orthopedic surgery, pediatrics, pediatric cardiology and physical medicine and rehabilitation.

NAME AND ADDRESS OF PERSON SUBMITTING THIS REPORT:

_____

_____

FIGURE 1

NAME	TOWN AND COUNTY	INSTITUTIONALIZED		AGE	SEX		DISABILITY		HAS ABILITY TO PROFIT FROM TALKING BOOKS, ETC.		
		Yes	No		M	F	Temporary	Permanent	Yes	No	Too Young

These totalled nine hundred seventy potential respondents. They were subsequently all sent a questionnaire form (Figure 1) with a request to fill in the appropriate information and return the form; first and second follow-ups were also sent out.

A total of 41.9% of the forms were returned (Figure 2) and on the basis of this received information an analysis of the data was undertaken.

FIGURE 2	Sent Out	Returned	%
Physicians	756	280	37%
Public Welfare Offices	93	80	86.0%
Nursing Homes	121	46	38.0%
TOTALS	970	406	41.9%

To make the distribution clear and meaningful the State of Nebraska was subdivided into seven regions (Figure 3) and pertinent data about each region determined.

III

A total of six hundred eighty-three physically handicapped were reported. Before a significant analysis of the returns could be effected it was necessary to determine the reliability of low percentage return counties (Figure 2). If the percentage returns were highly correlated with the number of physically handicapped reported, then the counties with lower percentage returns could be expected to have less reliability. (Figure 4 shows percentage return by population size of county-counties with no physicians are disregarded.) A Spearman p was used to determine

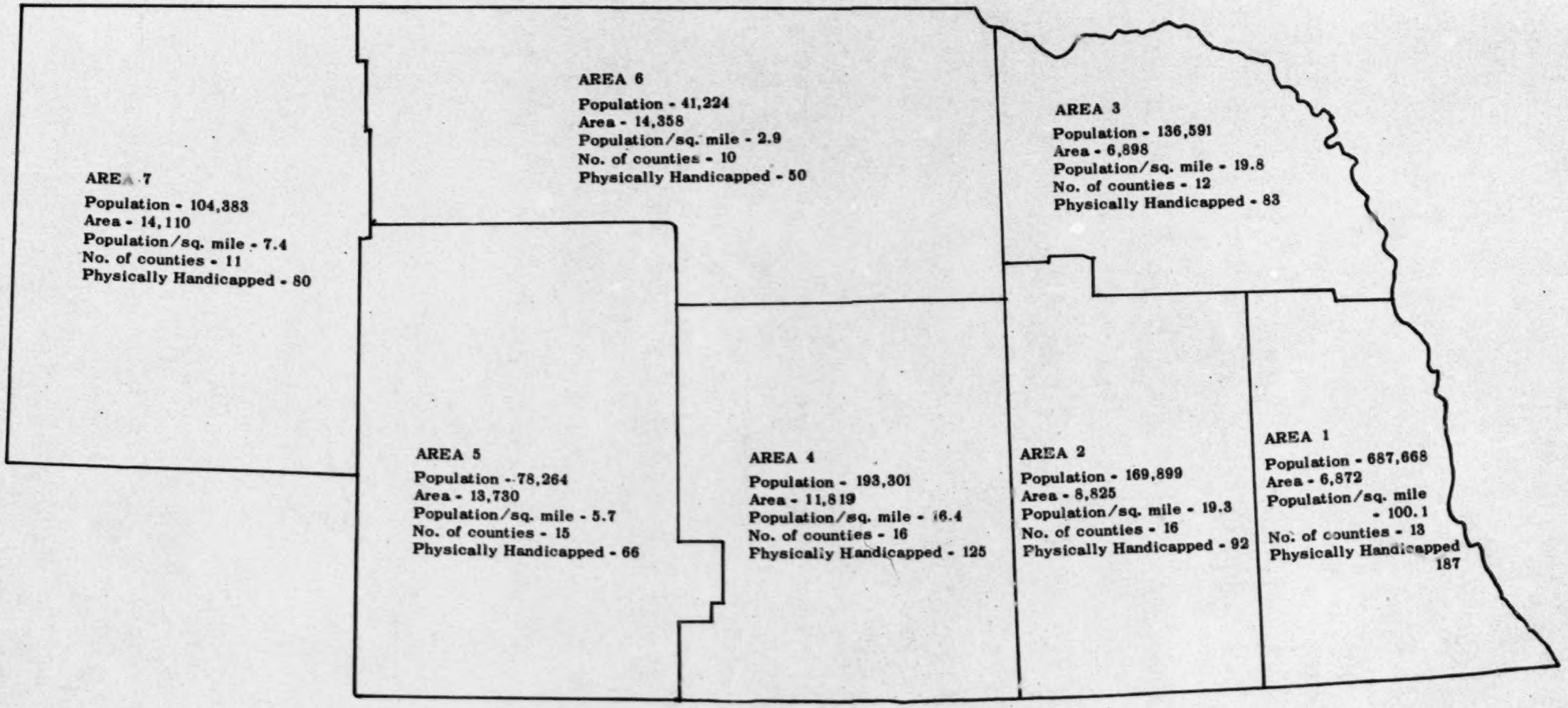

FIGURE 3 GEOGRAPHICAL AREAS WITH DEMOGRAPHICAL DISTRIBUTION

FIGURE 4

% Return	POPULATION 0-5,000	5-10,000	10-20,000	20-40,000	40,000+	Totals
75-100%	2	9	2	0	0	13
50-74%	6	5	3	2	0	16
20-49%	1	9	11	6	2	29
0-19%	4	8	6	1	0	19
Sub-Totals	13	31	22	9	2	77
Counties without physicians	14	1	0	1	0	16
TOTALS	27	32	22	10	2	93

the correlation between percentage return and number of physically handicapped reported. The population size of the counties was held constant. It was found in counties with a 20% (or above) percentage return that the p equals minus .153. The standard error of p equals .224. Thus to the .05 level of statistical significance the upper limits of the range (of possible error) of p is .278. Since the .05 significance level of p is .351, we are therefore certain to the .05 level of confidence that the correlation between percentage return and number of patients reported cannot be positively significant.

One possible explanation of this low correlation is that respondents who had knowledge of physically handicapped individuals tended to return the form while those persons who did not tended not to return the form.

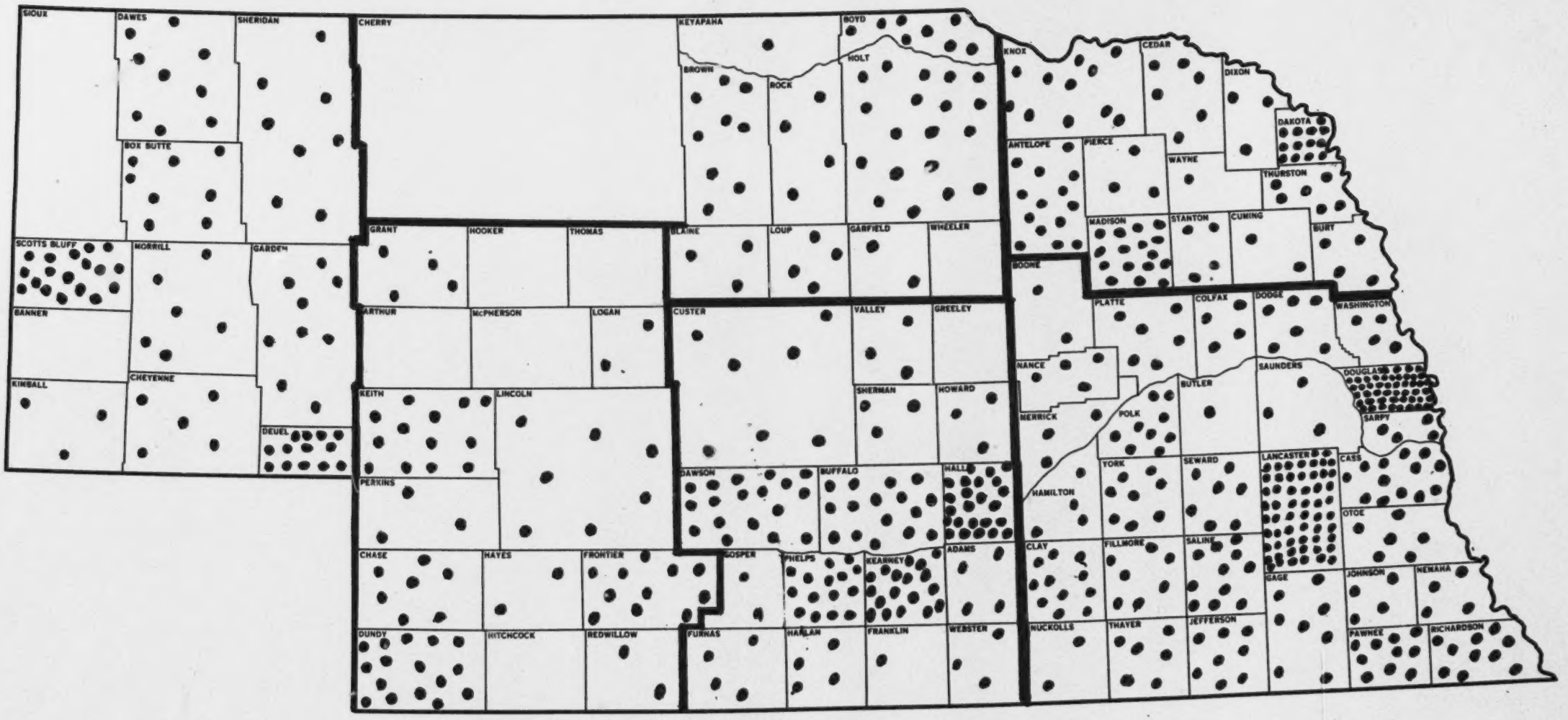

FIGURE 5 DISTRIBUTION OF PHYSICALLY HANDICAPPED WITHIN NEBRASKA

FIGURE 6

Area - 1	2	3	4	5	6	7	Total
M-I-C	8	2	0	3	1	0	1	15
M-I-YA	3	0	1	7	2	0	2	15
M-I-MA	3	0	3	5	1	0	2	14
M-I-SC	15	6	16	15	4	8	4	68
M-N-C	32	7	5	15	7	8	5	79
M-N-YA	5	2	0	2	2	3	2	16
M-N-MA	0	5	4	5	3	0	2	19
M-N-SC	7	14	5	3	9	1	18	57
F-I-C	4	0	1	2	0	0	1	8
F-I-YA	1	0	1	3	1	2	0	8
F-I-MA	2	3	0	7	1	0	0	13
F-I-SC	33	13	17	29	7	14	5	118
F-N-C	31	7	9	8	4	5	8	72
F-N-YA	4	0	0	2	3	1	3	13
F-N-MA	8	5	4	1	6	1	0	25
F-N-SC	17	23	13	14	12	6	17	102
Sub-Totals	173	87	79	121	63	49	70	642
Incomplete info.	14	5	4	4	3	1	10	41
Totals	187	92	83	125	66	50	80	683

M - male
F - female
I - institutionalized
N - not institutionalized
C - children (0-21)
YA - young adults (22-41)
MA - middle aged (42-61)
SC - senior citizens (62-)

The geographical distribution of the six hundred eighty-three physically handicapped reported is graphically depicted in Figure 5. A breakdown by area, sex, institutionalization, and age is provided in Figure 6. Because the bulk of this table makes it difficult to assimilate, it has been broken down into six smaller ones, each of which has been tested for statistical significance.

AREA

After having determined the number of physically handicapped in each area, it is interesting to observe such differences as may exist between areas. Figure 7 shows the variation of area by age. The most significant variation is the high percentage of physically handicapped individuals under the age of twenty-one in Area 1. This seems to indicate a high percentage of physically handicapped youth are located in the metropolitan areas.

FIGURE 7

	1	2	3	4	5	6	7	TOTAL
0 -21	75	16	15	28	12	13	15	174
22-41	13	2	2	14	8	6	7	52
42-61	13	13	11	18	11	1	4	71
62--	72	56	51	61	32	29	44	345
TOTAL	173	87	79	121	63	49	70	642

$X^2=58.54$ Significant beyond the .001 level

Another important fact is that in the state totals the age group of twenty-two to sixty-one contains less than 20% of the reported physically handicapped. This polarization vis a vis age categories is significant in terms of the kinds of services which might be most applicable.

One observation not shown in this chart, but pertinent to it, is that 8.8% of all the physically handicapped reported in Area I are under five years of age. Area I has 58% of the children under five in the state, but only 27% of all reported physically handicapped. This serves as another indication of the tendency of the young physically handicapped to be located in the more densely populated areas.

Figure 8 shows conclusively that male and female physically handicapped are quite equally distributed between the seven areas of the state. Sex is apparently not related to geographical distribution.

FIGURE 8

	1	2	3	4	5	6	7	TOTAL
Men	73	36	34	55	29	20	36	283
Women	100	51	45	66	34	29	34	359
TOTAL	173	87	79	121	63	49	70	642

X^2=.244 Statistically insignificant at the .01 level

The amount of institutionalization (as shown by Figure 9) illustrates the considerable variation by area but no clear cut trends. The highest concentration tends to be in the Platte Valley area (Area 4) with the lowest in Areas 2 and 7.

FIGURE 9

	1	2	3	4	5	6	7	TOTAL
Institutionalized	69	24	39	71	17	24	15	259
Non-institutionalized	104	63	40	50	46	25	55	383
TOTAL	173	87	79	121	63	49	70	642

X^2=34.83 Significant beyond the .001 level

AGE

As indicated in Figure 10, there is a fairly clear tendency for women to be over-represented at the sixty-one to one hundred and one age level and under-represented at the younger ages. This may be indicative of the female's longer life expectancy.

FIGURE 10

	0-21	22-41	42-61	62-101	TOTAL
Male	94	31	33	125	283
Female	80	21	38	220	359
TOTAL	174	52	71	345	642

X^2=20.53 Significant beyond the .001 level

Figure 11 overwhelmingly supports one of the most predictable variables, that the older the age category, the more likely the individual is to be institutionalized.

FIGURE 11

	0-21	22-41	42-61	62-101	TOTAL
Institutionalized	23	23	27	186	259
Non-institutionalized	151	29	44	159	383
TOTAL	174	52	71	345	642

X^2=79.97 Significant far beyond the .001 level

SEX

Figure 12 indicates no significant differences in the number of men institutionalized vis a vis the number of women institutionalized. As in Figure 8 any major sex differences are apparently either negligable or related to another variable.

FIGURE 12

	Male	Female	Total
Institutionalized	112	147	259
Non-institutionalized	171	212	383
TOTAL	283	359	642

X^2=.11 Not statistically significant

On completion of the statistical breakdown it is obvious that the most important variable is age. It is statistically significant in relation to each of the other three variables and evidences some of the most meaningful differentiations. The signficance of the other variables is much less powerful.

Another interesting observation is provided in Figure 13. Holding the percentage return constant (25-35%) we find that the number of physically handicapped per 10,000 population rises as the population size of the county drops. This fact is further supported by Figure 14 (the percentage return is not held constant in this table). It is quite probable that this negative correlation between density (and/or county size) and physically handicapped per 10,000 population is a direct result of the age differential since they follow closely the same general pattern.

FIGURE 13

	POPULATION RANGE OF COUNTIES			
	5-10,000 (N=7)	10-20,000 (N=5)	20-40,000 (N=4)	40-400,000 (N=2)
Physically Handicapped per 10,000 population*	6.8	5.0	4.0	2.25

*Percentage of returns held constant in this chart.

FIGURE 14

AREA	1	2	3	4	5	6	7
Pop/Sq.Mi.	100.1	19.3	19.8	16.4	5.7	2.9	7.4
P.H./10,000	2.7	5.4	6.1	6.5	8.6	12.2	7.7

IV

The final manipulation, which must be completed to ensure a clear, comprehensive picture of the physically handicapped of the state of Nebraska concerns the few counties which had under 20% percentage return. By holding the population ranges constant and determining the mean of those counties over 20% percentage return we can then calculate what we might expect (i.e. number of physically handicapped reported) if there had been a higher percentage return. Figure 15 shows this total to be eighty-eight higher than the descriptive total. Thus the projected total of new potential users of library services is seven hundred seventy-one. Figure 16 shows the projected distribution of Nebraska's physically handicapped.

FIGURE 15

	0-5,000	5-10,000	10-20,000	20-40,000	TOTAL
Number of Counties	18	9	6	1*	= 34
Physically Handicapped Reported	57	31	47	7	= ---
Physically Handicapped Projected	114	54	50	12	= ---
Difference	57	23	3	5	= 88

*Sarpy County included in Douglas

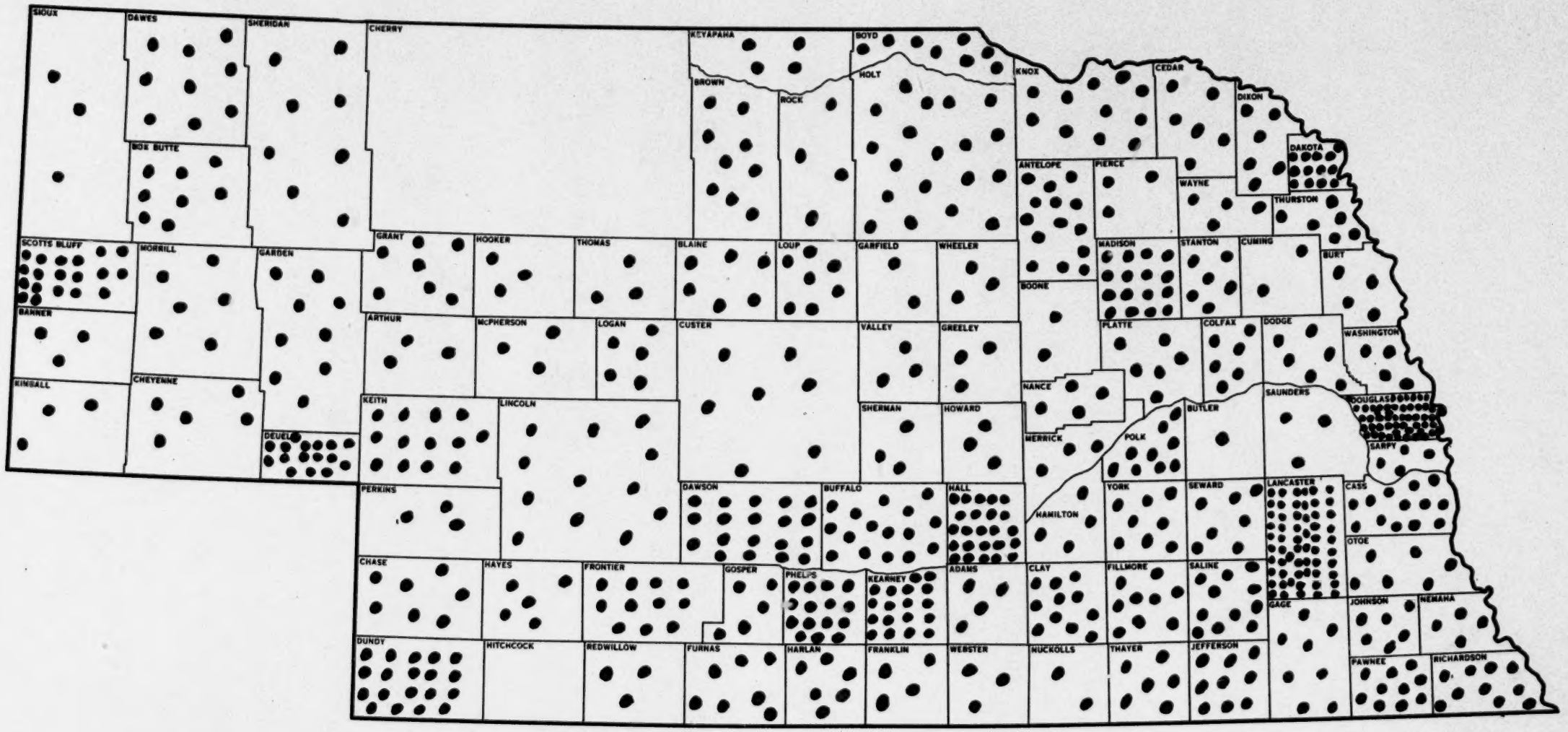

FIGURE 16 PROJECTED DISTRIBUTION OF PHYSICALLY HANDICAPPED WITHIN NEBRASKA

Some things can not be easily quantified. The reported number of temporarily handicapped was miniscule (7) yet several physicians and lay administrators emphasized the emotional and psychological problems of temporarily handicapped individuals which talking book services might, in part, alleviate.

The possibility of developing a permanent contact with the Nebraska Public Library Commission and thereby, perhaps, better filling the needs of a relatively stable patient population is also promoted by lay administrators.

More important than specifics, however, is the necessity to meet a very real need experienced by over seven hundred Nebraskans and the significance of the fact that their needs are beginning to be met.